

CORRESPONDENCE.

[Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.]

Are Trinomials Necessary?

TO THE EDITORS OF THE AUK:—

Sirs: I purpose taking advantage of the 'Correspondence' department to ask some of those who are most conversant with the subject to kindly explain through these pages, why it was considered necessary to adopt trinomial nomenclature for American ornithology? Or perhaps the object which I desire to achieve will be more clearly defined if I put the question thus: Why was it considered necessary to institute that division in zoölogical classification termed 'variety,' for which trinomials are used?

I do not ask this merely for the sake of provoking a discussion on the subject, nor because I consider that, in the event of a discussion ensuing, it is either probable or desirable that any change shall be effected in the minds of those who advocate the use of trinomials. I ask it simply to have the whole matter plainly set forth, and, if possible, an end put to the opposition to this system, which is at present so felt by some of our students; an opposition which it would be unfair to suppose would be persisted in if the reasons for adopting the system were thoroughly understood.

Let me state just here, that I do not wish to assert that this opposition occurs in the ranks of the more advanced of American students—the 'scientists'—for I can not say from personal knowledge whether it does or does not exist there; indeed so far as I am aware, it is found only among a portion of my brethren of the 'amateur element'; and while candor compels me to acknowledge that in some cases the objections are undefined and unreasonable, there are others, again, who support their opinions by strong and lucid arguments.

Nor need these gentlemen be at all ashamed to admit their position, for similar opinions are held by many of the *savants* of Europe. I can not, at the moment of writing, recall the name of any English ornithologist who has written in favor of this system, excepting Mr. Henry Seebohm.

Mr. Harting, the editor of the 'Zoölogist,' and who is a member of the British Ornithologists' Union, as well as an F.L.S., and an F.Z.S., has strongly condemned it; and not so much as one trinomial has been placed in the recently issued catalogue of British Birds, published by the B. O. U., and known as the 'Ibis List.' Proof that this omission was not accidental, occasioned, as it might be argued, by the isolated character of the British fauna, is furnished by the list. For instance, the two species of the Hawk Owl, the American and the European, are named by the American systematists respectively *Surnia funerea*, and *Surnia funerea ulula*; while in the 'Ibis List' they stand simply as *Surnia funerea*, and *Surnia ulula*.

Of course it may be urged that this question has already been fully discussed in the writings of Messrs. Baird, Coues, Ridgway, Allen, and others; but some of the readers of 'The Auk' have not access to these papers, and a summary of their contents will be very acceptable to those in whose interest the present communication is framed.

Very respectfully,

St. John. N. B.

MONTAGUE CHAMBERLAIN.

[Our correspondent's points are well taken, and we will endeavor to briefly explain. First, "Why was it considered necessary to institute that division in zoölogical classification termed 'variety' for which trinomials are used?" From the context our correspondent seems to imply that this is an innovation peculiar to American ornithology. So far from this being the case, 'varieties' are recognized in all departments of zoölogy, and also in botany, and by all authors of authority the world over, in varying extent, however, in different groups and by different writers. For the forms here referred to as 'varieties,' various terms are in more or less current use, some of which are more explicitly distinctive of what is meant than is the more elastic designation 'variety.' Among such terms may be cited 'subspecies,' 'conspecies,' 'incipient species,' 'imperfectly segregated species,' 'geographical races,' 'local forms,' etc. These all imply the character of the forms thus designated, namely, that they are *intergrading*, which, while characterized by differences easily recognized in their well-developed phases, yet so coalesce through intermediate stages of differentiation that they run the one into the other and cannot be sharply defined. On the other hand, 'species' are forms that do not, or at least are not known to intergrade, but are separated by a hiatus of greater or less extent. Complete separation is therefore the criterion of species, intergradation of subspecies, conspecies, or varieties. "But," our correspondent may ask, "why is it necessary to recognize intergrading forms at all?" The extent to which they shall be recognized is a matter of judgment, and practice in this regard must ever vary with the predilection of the writer, some deeming it advantageous to recognize forms by name that others will regard as not sufficiently differentiated to render their recognition necessary in nomenclature. 'Varieties,' or subspecies, are usually geographical, and in many cases evidently result from the varying conditions of environment which prevail within the habitat of a species of wide or continental distribution, these varying conditions being due to differences of latitude, elevation, or topographic features — in other words, to differences of climate, as regards, notably, temperature and moisture. For example, our common Song Sparrow inhabits the greater part of the North American continent, but is represented in different parts of it by quite diverse forms, just as the continent itself embraces wide areas over which prevail climatic conditions very different from those characteristic of other parts. Every one at all conversant with North American birds knows that the Song Sparrow of the States east of the Mississippi River is very different from the Song Sparrow of the great,

elevated, arid plateau of the interior, and that this interior form is again very different from the forms found at different points along the Pacific coast. These various forms, in their extreme phases, are widely diverse, varying in size, color, and in the relative size of the bill, etc., and may be more readily separated from each other than can well-defined species be in some other groups of our birds. Yet these very diverse forms of the Song Sparrow are found to intergrade at the points and over the areas where the physical conditions of these several climatic regions of the continent blend, and in the same gradual manner. What occurs in the Song Sparrow occurs also in most species having the same vast extent of habitat, and in a similar way as regards the development of geographical forms under differing physical conditions of environment. It is obviously a gain in the way of exactness of expression to be able to designate these different forms—to give a “handle to our facts”—by recognizing them in our systems of nomenclature. This recognition is very generally accorded them, but in very different ways. And this brings us to the matter of trinomials.

A common way of recognizing such forms is, for instance,—to go back to the case of the Song Sparrow,—as follows: *Melospiza fasciata*, var. *rufina*, using four terms in expressing the name and status of the varietal form in question. This is cumbersome and inconvenient. Another method is to use the term ‘subsp.’ in place of ‘var.’ This is explicit, and expresses the exact relationship of the two forms in question. Still other methods have been tried, as the separation of the subspecific name from the specific by some mark of punctuation, or an arbitrary character, as a letter or figure. But these devices are all needless and burdensome. The trinomial name results from simply dropping the connective term, be it either ‘var.’, ‘subsp.’, or an arbitrary character, leaving it to be understood that any form designated by a trinomial is a subspecies of the species indicated by the second term of the trinomial. Binomials relate always, in the practise of American ornithologists, to non-intergrading forms, hence to species; while trinomials are only applied to forms which intergrade. Status and relationship are thus as fully understood as would be the case were the whole form of four terms written out. Instead of doing violence to the so-called ‘Stricklandian Code,’ the trinomial system is a device, as we have stated on other occasions, to meet simply and completely a condition of things unknown and unsuspected when that, in most respects, admirable system of nomenclatural rules was conceived, and is in accordance with the spirit if not with the letter of that ‘Code.’ It is in no sense a lapse toward polynomialism.

The merits of this system are already becoming recognized abroad, and with greater promptness than we dare say, the most ardent trinomialist had ever ventured to hope, much less expect. In ‘The Ibis’ for July, 1881 (p. 290), the editors, in a review of Mr. Ridgway’s Nomenclature of North American Birds, speak as follows: “On this we may remark, that we cannot deny the advantages of the use of trinomials when strictly limited to such cases as these [intergrading forms], and have little doubt that they will ultimately come into general use. But they can only be

advantageously employed in countries such as North America and Europe, where large series can be obtained from many different localities. In other parts of the world their use would at present be attended with much inconvenience, it being impossible to ascertain in very many cases, from lack of specimens, whether these intergradations exist or not."

As showing further the progress of trinomialism in England—the stronghold of binomialists—we may quote the following from Mr. Seebohm's 'History of British Birds' (Part II, p. xii) :—

"English ornithologists have for the most part ignored these intermediate forms and with characteristic insular arrogance have sneered at their American *confrères* for adopting trinomial names which their recognition demands. In this, as in so many other things, our American cousins are far in advance of the Old World. One English ornithologist, however, deserves to be mentioned as an honorable exception. Mr. Bowdler Sharp has boldly braved the blame of the Drs. Dry-as-dust and the Professors Red-tape, and the volumes of the 'Catalogue of Birds of the British Museum' hitherto represent almost the only European publications on ornithology which are not behind the age in this respect. The binomial name will probably be generally used as a contraction; but it must never be forgotten that it is only a contraction. The difference between a species and a subspecies, though in some cases not very clear, is far too important a fact to be sacrificed to a craze for a uniform binomial nomenclature."

[We may add that Dr. Gadow, in the eighth volume of the same monumental work, has followed closely, in this respect, in the footsteps of Mr. Sharpe.

On the continent there are already notable and numerous converts to the system, among whom we may mention Count von Berlepsch, Drs. Reichenow, Hartlaub, Severtzoff, Collett, and Stejneger, who have all employed trinomials in their recent papers, while Dr. Cabanis shows an unmistakable leaning in the same direction. Professor Schlegel, of the Leyden Museum, is perhaps to be counted as the father of the system, he having for more than twenty years made use of trinomials in precisely the sense in which they have come into current and almost universal use among American ornithologists, and to a large extent among mammalogists, herpetologists, and ichthyologists. During most of these years he has been cited as a flagrant example of a 'polynomialist,' and on many occasions sneered at for his heterodoxy. While he antedates Americans in the systematic use of trinomials for intergrading forms, we are in position to know that the 'American school' was the spontaneous outcome of our studies of American birds, and that the use of trinomials was forced upon us by conviction of their utility and necessity.

While lack of space forbids our enlarging upon this important subject in the present connection, we trust we have thrown some light upon the questions raised by our correspondent, and that the many estimable workers for whom he may be supposed to speak will see that the use of trinomials is by no means a freak in nomenclature, countenanced by merely a small following of American writers.—J. A. A.]